Remarks

Claims 1-12 are pending. The specification has been amended as illustrated above to correct a typographical error. No new matter has been added.

Appreciation is expressed for the indication of allowability of claims 2, 3, and 7-9. However, at this time the applicants chose to defer amendment of these claims until they have had the opportunity to traverse the Examiner's rejections.

Rejection of Claims under 35 U.S.C. § 103

Claims 1, 4-6, and 10-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lau et al., U.S. Patent No. 6,356,561 (Lau) in view of Yonge, III et al., U.S. Patent No. 6,671,284 (Yonge). The applicants respectfully traverse these rejections.

Lau and Yonge, taken alone or in combination, neither teach nor suggest a method of encoding a data packet for encapsulation in one or more frames including:

> determining the length of a data chunk as the lesser of the number of bytes available in a current frame, the number of bytes remaining in the data packet, or a predetermined number of bytes;
>
> determining if the data chunk is the end-of-the-packet (EOP); and
>
> when the data chunk is not the EOP, prepending the data chunk with a control character representing the length of the data chunk and non-EOP prior to insertion of the data chunk into a current frame;

as required by independent claim 1.

Although not explicitly stated, it appears that the Examiner believes column 3, lines 1 plus, and column 6, lines 20 plus of Lau teach the claimed determining operation. Office Action of November 30, 2004, p. 3, ¶2. The applicants respectfully disagree.

As an initial matter, the cited portion of Lau makes clear that Lau does not teach or suggest a method of encoding a data packet for encapsulation in one or more frames. Instead, Lau merely teaches methods and apparatus for the transfer of variable length packets. More specifically, column 3, line 65 through column 4, line 20 of Lau states:

> Referring now to FIG. 1, an apparatus **10** according to the invention includes a UTOPIA interface **12** which is modified by the addition of three signal lines **14**, **16**, **18**, control logic **20**, **20'** and buffers **22**, **22'**. As shown

> in FIG. 1, the logic **20** and the buffer(s) **22** are associated with a packet source **24** having multiple ports, PORT 1 . . . PORT N. The logic **20'** and buffer(s) **22'** are associated with a PHY device **26** having multiple ports, PHY PORT 1 . . . PHY PORT N. As with the conventional UTOPIA interface, additional devices may be coupled to the same modified UTOPIA bus. According to the invention, these devices may include multiple PHY devices, multiple packet devices and multiple ATM devices.
>
> According to the invention, the three additional signal lines **14, 16, 18** are used to indicate start of packet (SOP), end of packet (EOP), and most significant byte (MSB). According to the methods of the invention, packets entering the packet device **24**, via the ports PORT 1 . . . PORT N, are buffered in buffer(s) **22** prior to being transferred over the interface to the PHY device **26**. The logic **20** is programmed (preferably hard wired) to segment packets into fixed length segments. According to the presently preferred embodiment, the segments may be as small as **8** bytes or as large as **64** bytes.

Thus, Lau simply teaches the use of additional signal lines to indicate when certain portions of a packet are being transmitted across and interface. Neither this portion of Lau nor the portion of Lau cited by the Examiner, teach or suggest determining the length of a data chunk as the lesser of: (1) the number of bytes available in a current frame, (2) the number of bytes remaining in the data packet, or (3) a predetermined number of bytes. In fact, Lau teaches no data chunk length determination operation at all.

Regarding the claimed prepending the data chunk with a control character, the Examiner refers to column 3, lines 20 plus, and column 9, lines 48 plus of Yonge. Office Action of November 30, 2004, p. 4, top. Column 3, lines 27-45 of Yonge states:

> The frame control information can be used to determine when a next medium access contention may occur. Using the frame control information can include setting virtual carrier sense information based upon the receipt of the frame control information to indicate the timing of the next medium access contention relative to the end of the frame transmission when the frame control information is valid and a queued frame has a channel access priority greater than any identified by the frame control information or, otherwise, to indicate network idle time. The virtual carrier sense information can include a virtual carrier sense timer and associated flag, the associated flag being set to a one when the virtual carrier sense time indicates the timing of the next medium access contention. The frame control information can indicate the position of the frame control information within the frame and whether a response is expected, and the timing of the virtual carrier sense timer can be set to a value based on the

> indication of the position of the frame control information and whether a response is expected.

Thus, while this cited portion of Yonge teaches the use of frame control information, it neither teaches nor suggests prepending a data chunk with a control character representing the length of the data chunk and that it is non-EOP prior to insertion of the data chunk into a current frame. In fact, the cited portion of Yonge makes no teaching or suggestion regarding any determination when the data chunk is not the EOP.

Column 9, lines 48-64 of Yonge states:

> Still referring to FIG. 3, the frame **80** further includes one or two delimiters **90**, referred to more generally as delimiter information. The delimiter information **90** includes a delimiter that precedes the payload **82**, that is, a start (or SOF) delimiter **92**. Preferably, in addition to the start delimiter **92**, the delimiter information **90** includes a delimiter that follows the payload **82**, i.e., an end (or EOF) delimiter **94**. The start delimiter **92** includes a first preamble **96** and a first frame control field **98**. The end delimiter **94** includes a second preamble **100**, as well as a second frame control field **102**. The preambles **96**, **100** are multi-symbol fields used to perform or enable automatic gain control, time and frequency based synchronization and physical carrier sensing. The preambles **96**, **100** may be the same length or different lengths. An EFG **104** separates the end delimiter **94** and the payload **82**. The inclusion of the EFG **104** in the frame **80** is optional.

Thus, while this portion of Yonge describes a frame format that includes and end of frame delimiter, there is no teaching or suggestion in the cited portion of Yonge regarding a determination when a data chunk is not the EOP. Moreover, there is no teaching or suggestion regarding prepending the data chunk with a control character representing the length of the data chunk and that it is non-EOP, prior to insertion of the data chunk into a current frame.

The Examiner goes on to state:

> One skilled in the art would have recognized the need for effectively and efficiently encoding data packet with a lower overhead, and would have applied Yong, III's teaching the format frame control into Lau's novel use of the encoding techniques. Therefore it would have been obvious . . . to apply Yong, III's frame control for efficient media access into Lau's method and apparatus . . . with the motivation being to provide a method and apparatus forencoding a data packet for encapsulation in one or more

frames in communications. (Office Action of November 29, 2004, p. 4, ¶1 through p.5, top.)

The applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness. In addition to the claim elements not taught or suggested by the cited references as described above, the Examiner has not shown that there is some suggestion or motivation to combine Lau and Yonge, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. Neither reference suggests such a combination. The Examiner's purported motivation to combine ("to provide a method and apparatus forencoding a data packet for encapsulation in one or more frames in communications") is not supported by either reference, and the Examiner has pointed to nothing in either reference showing this motivation. Similarly, the Examiner appears to propound an additional motivation ("[o]ne skilled in the art would have recognized the need for effectively and efficiently encoding data packet with a lower overhead") but provides no justification for this motivation. Thus, the applicants respectfully submit that the Examiner has failed to explain what specific understanding or technological principle within the knowledge of one of ordinary skill in the art would have suggested the combination, as required by, for example, *In re Rouffet,* 47 USPQ2d 1453 (Fed. Cir. 1998).

The applicants respectfully submit that claim 1 is allowable over Lau and Yonge. Claims 4-6 and 10-12 depend from claim 1 and are allowable for at least this reason.

In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the examiner is requested to telephone the undersigned.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Mail Stop: Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA, 22313-1450, on Feb 28, 2005.

Attorney for Applicant(s) — Date of Signature: 2/28/05

Respectfully submitted,

Marc R. Ascolese
Attorney for Applicant(s)
Reg. No. 42,268
512-439-5085
512-439-5099 (fax)